

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
23 June 2005 (23.06.2005)

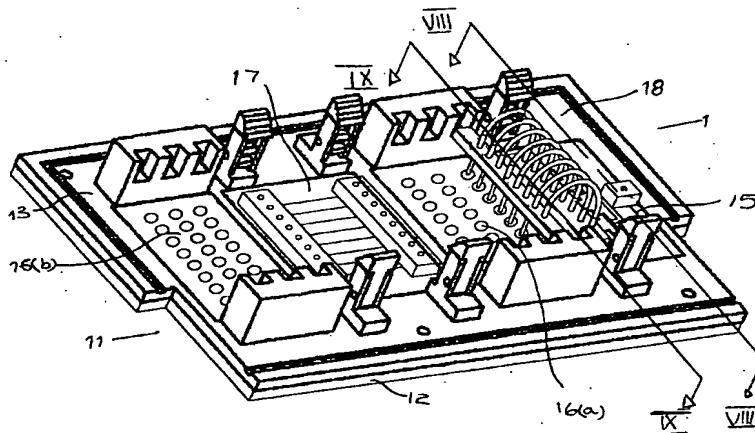
PCT

(10) International Publication Number
WO 2005/056186 A1

- (51) International Patent Classification⁷: **B01L 3/00**, F16L 39/00, F15C 5/00
- (21) International Application Number: **PCT/IE2003/000166**
- (22) International Filing Date: 10 December 2003 (10.12.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (71) Applicant (*for all designated States except US*): **THE PROVOST FELLOWS AND SCHOLARS OF THE COLLEGE OF THE HOLY AND UNDIVIDED TRINITY OF QUEEN ELIZABETH NEAR DUBLIN [IE/IE]**; College Green, Dublin 2 (IE).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): **VIVIENNE, Williams [IE/IE]**; St Teresa, Riverchapel, Gorey, County Wexford (IE). **IGOR, Schvets [IE/IE]**; 250 Delwood Road, Castleknock, Dublin 5 (IE). **DMITRI, Kashanin [RU/IE]**; 50 Grange Downs, Rathfarnham, Dublin 14 (IE). **DERMOT, Kelleher [IE/IE]**; 30 Royal Terrace West, Dun Laoghaire, County Dublin (IE). **SIOBHAN, Mitchell [IE/IE]**; 3 Belltree House, Salem Court, Maxwell Road, Dublin 6 (IE).
- (74) Agents: **O'CONNOR, Donald, H. et al.**; Cruickshank & Co., 1 Holles Street, Dublin 2 (IE).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:
— with international search report

[Continued on next page]

(54) Title: A MODULAR BIOCHIP ASSEMBLY



(57) Abstract: A biochip assembly (1) is provided for cell based and other assays. A main support frame (11) releasably mounts separate and removable biochip modules (15, 16(a), 17 and 16(b)). There is an input module (15) which forms an enclosed liquid delivery assembly for connection to a liquid pump. There are two reservoir containing modules (16(a)) and (16(b)) having sets of wells (33(a); 33(b); 33(c); and 33(d); 33(e); 33(f)) respectively, which reservoir containing modules (16(a)) and (16(b)) are on either side of a microchannel containing module (17) which has an input port (35) and output port (36) for each of a plurality of microchannels (37). A removable transfer assembly (18), shown connecting the input module (15) and the reservoir containing modules 16(b), is used to interconnect the modules; to store liquid; to aspirate liquid from and deliver to the wells (33); and to delivery liquid through the microchannels (37).

WO 2005/056186 A1

WO 2005/056186 A1



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.